SUPPLEMENTAL CULTURAL RESOURCES SURVEY FOR THE LINE 57 RELIABILITY PROJECT IN SAN JOAQUIN AND CONTRA COSTA COUNTIES, CALIFORNIA

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INTRODUCTION

Pacific Gas and Electric Company proposes to construct a 24-inch natural gas line near the community of Holt, California, extending west from San Joaquin County into eastern Contra Costa County (Figure 1). The line will enhance the reliability of the existing natural gas supply system to the San Francisco Bay area. The project is located in unsectioned portions of Township 1–2 North, Range 3–5 East of the U.S. Geological Survey (USGS) Woodward Island (1978) and Holt (1978, minor revision 1994) 7.5-minute topographic quadrangles. The proposed project is subject to compliance with the California Environmental Quality Act (CEQA), which requires that public agencies identify the significant environmental effects of their actions, including effects to historical resources, and either avoid those significant effects or mitigate significant environmental effects where feasible.

On behalf of Trigon EPC, Applied Earthworks, Inc. (*Æ*) performed a cultural resources inventory and geoarchaeological study of the project area to identify archaeological sites, historical buildings, structures, and other cultural resources that may be affected by the proposed project (Lloyd and Baloian 2005). However, late project realignments, design alterations, and low surface visibility due to crop coverage precluded the surface examination of portions of the project area, including sections of a horizontal directional drill (HDD) pullback on Bacon Island and the tie-in point and temporary use area (TUA) on Palm Tract. Further, the TUA on McDonald Island was redesigned to pass approximately 100 feet northwest of CA-SJO-189, a large sand mound containing burials. Due to these limitations, *Æ* made the following recommendations (Lloyd and Baloian 2005:5.3):

- Survey the tie-in point and TUA on Palm Tract using intensive parallel surface transects spaced 1–2 meters apart when surface visibility is greater than 50 percent.

- Survey the westernmost 1,600 feet of the HDD pullback on Bacon Island using parallel surface transects spaced 10–15 meters apart when surface visibility is greater than 50 percent.

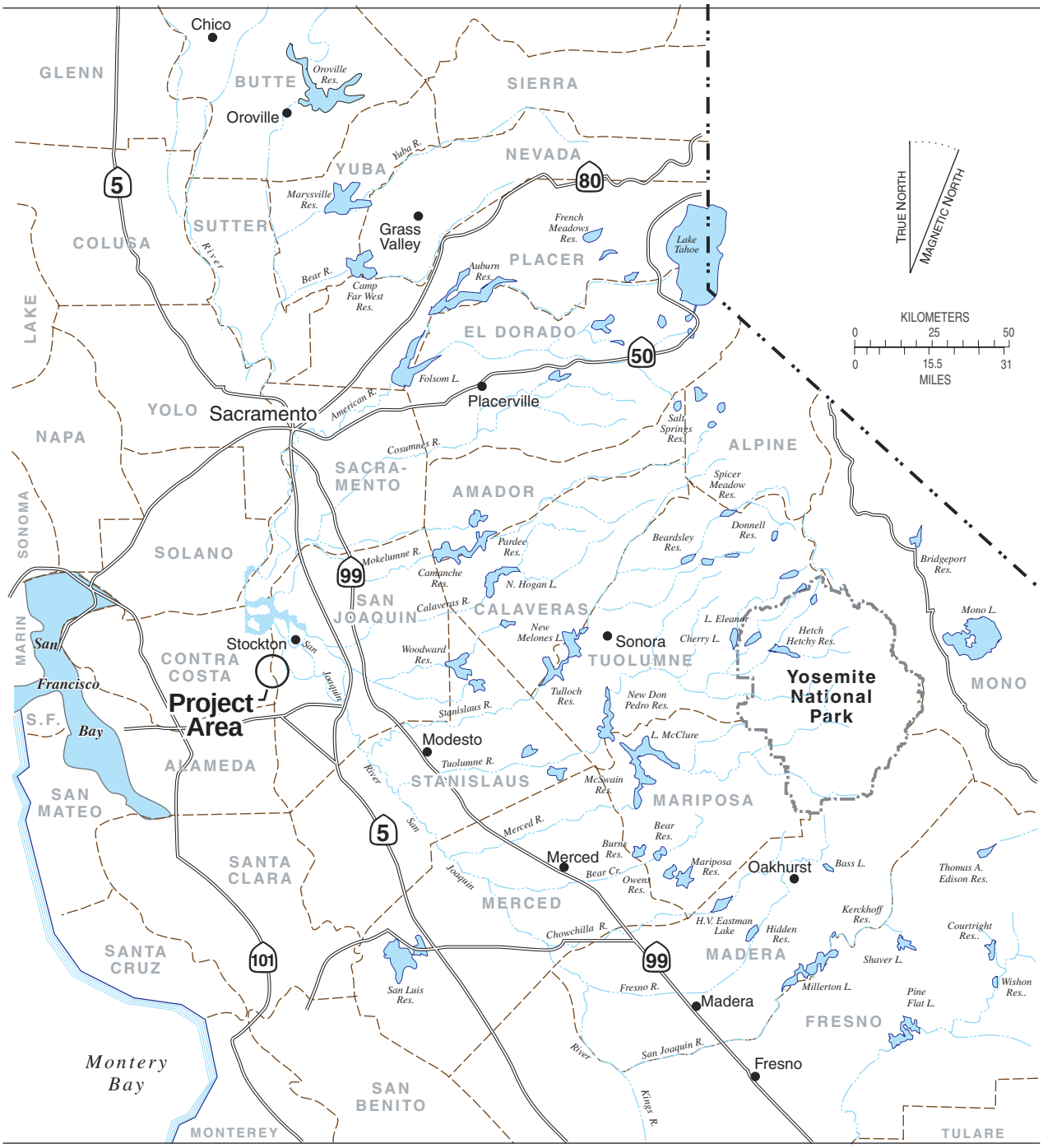


Figure 1 Project vicinity in Contra Costa and San Joaquin counties.

- Relocate the remains of the sand mound at CA-SJO-189 and ensure that the adjacent TUA is at least 100 feet away. Survey the northern 2,000 feet of the TUA on McDonald Island using parallel transects spaced 10–15 meters apart when surface visibility is greater than 50 percent. Additionally, temporary fencing should be constructed along the eastern edge of the McDonald Island TUA to ensure that project activity does not inadvertently extend into the site boundaries.

This report documents the implementation of these recommendations. Survey coverage at each location measured 300 feet wide for the TUA and HDD pullback lengths noted above. Fieldwork was conducted by Æ Associate Archaeologist Jay Lloyd on 12 December 2005. The work was guided by copies of Trigon EPC base maps showing the proposed project alignment, TUAs, HDD pullbacks, access roads, and other project locations. Work at each location was documented using a digital camera.

Additional information regarding the prehistoric and historic background of the project vicinity, methods, results of the archival research, consultation, field survey, and the geoarchaeological study is provided in Lloyd and Baloian (2005).

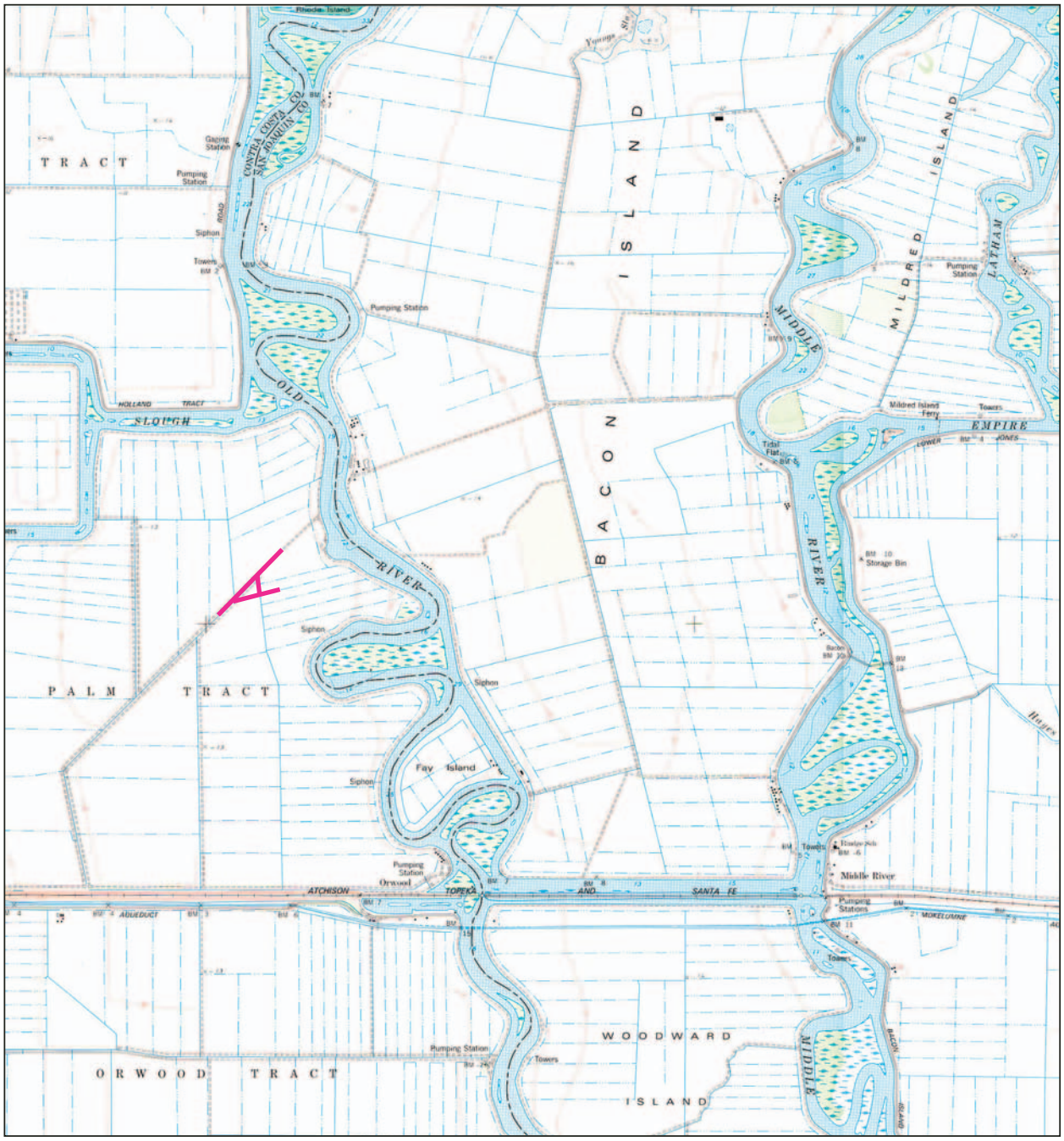
PALM TRACT

The tie-in point and TUA on the Palm Tract were initially surveyed during the February 2005 field effort. Subsequent to the initial field effort, the geoarchaeological study identified the remains of a possible sand mound immediately south of the TUA. Due to the proximity of the TUA to the mound, the area was considered to be an archaeologically sensitive zone (ASZ) level 1, the highest level of sensitivity. In order to confirm the absence or presence of cultural material, the area was resurveyed at 1–2 meter transect intervals. This was partially completed in June 2005. However, a portion of the TUA was under cultivation and the ground was completely obscured by vegetation, thus precluding an intensive examination of the entire parcel.

The remainder of the TUA was surveyed on 12 December 2005 (Figure 2). Ground visibility was approximately 50–60 percent with harvested corn plants strewn throughout the area (Figure 3). Sediments are consistent with the organically rich peat soils found throughout the Delta region. Based on soil composition and the topography of the surrounding area, it does not appear that the purported sand mound extends into the TUA. No cultural material was observed.

BACON ISLAND

Late project realignments extended an HDD pullback on Bacon Island (Figure 4) approximately 1,600 feet beyond what had been previously surveyed in June 2005. The area was surveyed on 12 December 2005 using parallel and meandering pedestrian transects spaced 10–15 meters apart (Figure 5). Vegetation consisted of recently harvested corn, and visibility ranged from 50 to 70 percent. Sediments are consistent with the organically rich peat soils found throughout the Delta region. No cultural material was observed.



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LEGEND

Temporary Use Area (TUA)

16½°

TRUE NORTH

MAGNETIC NORTH

U.S.G.S. 7.5 Minute
Topographic Quadrangle
Woodward Island, CA
T 1–2 N - R 3–5 E
1978

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

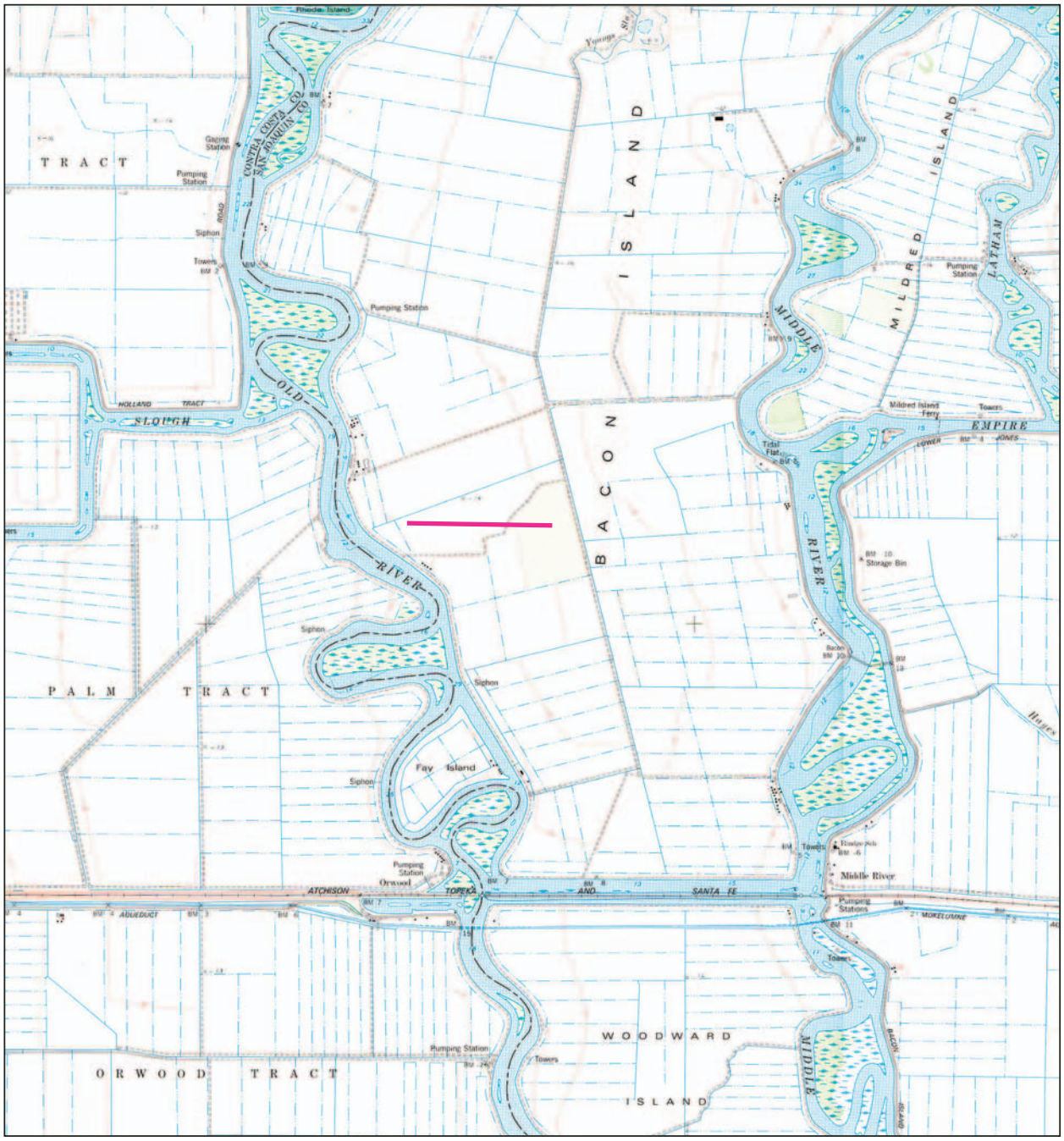
1 .5 0 1 KILOMETER

Contour Interval 5 feet

Figure 2 Palm Tract TUA location.

Figure 3 Overview of Palm Tract TUA looking east.

Figure 4 Overview of Bacon Island HDD pullback looking west.



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LEGEND

Horizontal Directional Drill (HDD) Pullback

16½°

TRUE NORTH

MAGNETIC NORTH

U.S.G.S. 7.5 Minute
Topographic Quadrangle
Woodward Island, CA
T 1–2 N - R 3–5 E
1978

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

Contour Interval 5 feet

Figure 5 Bacon Island HDD pullback location.

MCDONALD ISLAND

Late project realignments extended a TUA on McDonald Island approximately 2,000 feet beyond what had been previously surveyed in February and June 2005 (Figure 6). The alignment was also designed to pass 100 feet northwest of CA-SJO-189, a large prehistoric archaeological site. As noted in Lloyd and Baloian (2005:4.3), California State College, Stanislaus conducted emergency excavations at the site, which was uncovered during leveling of a large sand mound (Emig et al. 1981). The site reportedly contained more than 20 intact burials along with large numbers of associated funerary goods, including pestles, manos, projectile points, bifaces, and beads.

In accordance with Æ's recommendations (Lloyd and Baloian 2005:5.3), the reported site location was visited on 12 December 2005 in order to delineate the site boundaries and ascertain that the proposed TUA was at least 100 feet away. The site location is readily observable at the plotted location—the remains of the sand mound sit approximately 1–2 feet above the surrounding fields (Figure 7). The remaining portion of the mound measures 80 by 100 meters (262 by 328 feet) and is bounded on the south by a narrow dirt access road. The mound grades into sod fields on the east, west, and north. A number of potatoes were observed throughout the mound, indicating that the mound is cultivated during potato season but, for whatever reason, is not used to grow sod. The soil matrix of the mound is composed almost completely of loose, unconsolidated grayish brown sand. Some pockets of a loamy sand soil were observed along the margins, most likely the result of the local peat soils mixing with the sand.

Cursory field examination of the mound resulted in the identification of more than 20 prehistoric artifacts, including a square stemmed chalcedony projectile point (Figure 8); four glossy black opaque obsidian flakes and five greenstone flakes (Figure 9); a shaped and end-battered granite pestle fragment (Figure 10); two unidentified ground stone fragments; and more than 10 burned and unburned small bone fragments. Although none of the bone fragments were large enough to allow conclusive identification, most of them were consistent with human bone based on morphology and the density of the cortical and trabecular bone; other pieces were clearly animal remains. Artifacts appeared to be randomly strewn throughout the visible portion of the mound with no identifiable concentrations or loci. Additionally, artifacts were observed immediately adjacent to the sod along all sides of the mound, indicating that cultural material most likely extends out into the fields.

It is clear from the field visit that substantial damage has seriously compromised site integrity. In addition to being leveled, the site has been plowed numerous times in association with planting, cultivation, and harvesting. It is unclear from surface observations how deep these disturbances go and whether intact deposits may potentially be present below the upper disturbances. However, the artifact classes observed suggest that CA-SJO-189 was used for resource procurement and processing in addition to its documented use as a burial site.

The northern 2,000 feet of the McDonald Island TUA also was surveyed at 10–15 meter intervals on 12 December 2005. Although much of the TUA was covered with sod (zero visibility), all access roads, ditches, bare patches, and other exposed areas were examined for cultural material (more than 80% visibility). All observed sediments were consistent with the local peat soils of the Delta wetlands. No cultural material was observed within any part of the TUA.

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LEGEND

Temporary Use Area (TUA)

16½°

TRUE NORTH

MAGNETIC NORTH

U.S.G.S. 7.5 Minute
Topographic Quadrangles
Holt and Woodward Island, CA
T 1–2 N - R 3–5 E
1978

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

Contour Interval 5 feet

Figure 6 McDonald Island TUA location.

Figure 7 **Overview of CA-SJO-189 looking northeast; note the sod fields surrounding the site.**

Figure 8 **Square stemmed projectile point within CA-SJO-189.**

Figure 9 Obsidian and greenstone debitage from CA-SJO-189.

Figure 10 Pestle fragment observed at CA-SJO-189.

RECOMMENDATIONS

As noted in the previous sections, no cultural resources were noted on Palm Tract or Bacon Island. Based on the results of the geoarchaeological study, records search, and surface survey, sensitivity for unknown cultural resources appears to be low. No further cultural resources work is recommended.

Project needs for the TUA on McDonald Island consist solely of surface activity and will not require subsurface disturbance. However, as noted during the field visit, the cultural material at CA-SJO-189 was not all removed in 1981 when the burials were excavated and the mound graded. Further, because field conditions at the time of the latest survey precluded an intensive surface examination of the ground between the mound and the proposed TUA, it is not possible to unequivocally determine whether the TUA encroaches on the site. While further survey does not appear to be warranted, *Æ* does recommend exclusionary fencing be erected along the southeastern edge of the TUA, preventing accidental encroachment on the site during construction. *Æ* also recommends that a qualified archaeologist, familiar with CA-SJO-189 and the various soil types surrounding the site, assist with the fencing to ensure that it is, in fact, outside the boundaries of the site.

REFERENCES

Emig, C., L. Meneses, and L. Dehart

1981 *Archaeological Site Survey Record for CA-SJO-189, McDonald Tract, San Joaquin County, California.* Archaeological Interns Project. On file, Central California Information Center of the California Historical Resources Information System, California State University, Stanislaus, Turlock.

Lloyd, Jay B., and Randy Baloian

2005 *Cultural Resources Survey for the Line 57 Reliability Project in San Joaquin and Contra Costa Counties, California.* Prepared by Applied EarthWorks, Inc., Fresno, California. Prepared for Trigon EPC, Durango, Colorado.